

ABSTRACT

The present invention aims at providing a photodetector capable of fast operation with inclusion of A/D converting circuits. With a photodetector 1, $(K \times M \times N)$ photodiodes $PD_{k,m,n}$ are arranged in M rows and $(K \times N)$ columns in a photodetection unit 10, and processes (electric charge accumulation, CDS, filtering, and A/D conversion) regarding each of the $(K \times N)$ photodiodes $PD_{k,m,n}$ ($k = 1$ to K , $n = 1$ to N) of each row are carried out successively at each time T . Meanwhile, each of an electric charge accumulation operation in an integrating circuit $20_{m,n}$, a CDS operation in a CDS circuit $30_{m,n}$, a filtering operation in a filter circuit $40_{m,n}$, and an A/D conversion operation in an A/D converter $50_{m,n}$ is carried out at each time $(N \times T)$.